Alosetron of 7.¹ Due to safety concerns (constipation [25%] and ischaemic colitis [0.1%]) Alosetron is not licensed in the UK. Ondansetron (OND) is a 5HT₃ RA, widely and safely used for nausea, with constipation as a side effect.

Methods We recruited 125 patients meeting the Rome III criteria from primary and secondary care to a two centre randomised, double-blind, placebo-controlled, crossover trial. Screening comprised of blood tests, rectal biopsy and a 1-week baseline Bristol stool form diary before randomisation to placebo (PLA) or OND for 5 weeks. Efficacy was optimised by dose titration during weeks 1–3 starting at 4 mg daily, increasing (max 8 mg three times a day) or decreasing as required. A 2-week washout preceded 5 weeks of the opposite therapy to that received in treatment 1. Symptom diaries including stool form, frequency, pain, bloating and urgency were completed daily. Transit using the Metcalf method was measured after each treatment period.² The primary endpoint was the difference in average stool form between baseline and the last 2 weeks of each treatment. Stool consistency “responders” were defined as experiencing >50% reduction in the days/week with stool form 6 or 7. Analysis is presented by intention to treat.

Results 80 women and 28 men completed the study (mean age 40.8, range 18–72, and 41.5, range 25–60). The mode dose of OND was <4 mg a day. Stool form improved significantly in the OND arm, mean change 1.4 (95% CI 1.2 to 1.6), vs 0.5 (95% CI 0.3 to 0.7) compared to PLA, $p < 0.0001$. Stool frequency improved on OND, mean 0.86 (95% CI 0.8 to 1.4), vs 0.44 (95% CI 0.4 to 0.89) on PLA, $p < 0.01$, as did urgency score 0.6 (95% CI 0.8 to 0.4) vs 0.3 (95% CI 0.5 to 0.2) $p < 0.001$. There were no significant improvements in pain or bloating. 74% of patients preferred OND while 26% preferred PLA or had no preference, $\chi^2 p < 0.0001$. 70% were “stool consistency responders” while taking OND compared with 33% taking PLA giving a NNT of 2.7. Whole gut transit slowed significantly while taking OND, 25 (13.5–47.5) h compared to 16 (7–29) h with PLA $p < 0.001$. 9% receiving OND complained of constipation compared to 2% on PLA, all but one responded to dose reduction alone. 2% withdrew because of constipation. There was no case of ischaemic colitis.

Conclusion Using dose titration Ondansetron acts to slow whole gut transit and is highly effective in IBS-D with a low incidence of constipation.

Competing interests None declared.

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OC-092 CONTRALESIONAL APPLICATION OF THE NOVEL BRAIN STIMULATION INTERVENTION TRANSCRANIAL DIRECT CURRENT STIMULATION (TDCS) RESTORES BRAIN AND SWALLOWING FUNCTION IN THE HUMAN PHARYNGEAL MOTOR CORTEX

doi:10.1136/gutjnl-2012-302514a.92

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Introduction Recovery of swallowing function in unilateral dysphagic stroke patients is associated with increased pharyngeal motor cortex excitability of the unlesioned hemisphere. “Virtual-lesioning” the human pharyngeal motor cortex transiently disrupts swallowing neurophysiological and behavioural function for up to 45 min. During this window of opportunity we trialled the effects of contralesional tDCS, a novel non-invasive brain stimulation technology, on “virtual-lesion” induced brain and behavioural changes to swallowing function.

Methods In 15 healthy volunteers (eight males, 21–61 years old) hemispheric lateralisation and cortical excitability of pharyngeal and hand motor cortex were mapped using Transcranial Magnetic Stimulation via an intraluminal catheter with electromyography and pressure sensors. Volunteers then received a “virtual-lesion” to the strongest pharyngeal projection and were randomised to either 10 min of 1.5mA Anodal tDCS (Active) or Sham to the unlesioned hemisphere on separate days. In *Experiment 1*, effects of tDCS on cortical excitability were compared to baseline over 60 min. In *Experiment 2*, swallowing behavioural measurements using a swallowing reaction time task were used to calculate a time window for challenge swallows. Swallowing behaviour was assessed for 60 min after tDCS and compared to baseline. Data were compared using repeated measures ANOVA.

Results *Experiment 1*; compared to sham, active tDCS abolished the inhibitory effects of the “virtual-lesion” bilaterally ($p = 0.017$) with a maximum increase in excitability from baseline of 34% in the unlesioned hemisphere (Abstract OC-092 figure 1). No significant changes were observed in the hand. *Experiment 2*; compared to sham, active tDCS significantly improved challenge swallow performance ($p = 0.025$) with a maximal improvement of 174%.

Abstract OC-092 Figure 1 Experiment 1—Changes in pharyngeal excitability.

Conclusion Contralesional tDCS reverses the neurophysiological and behavioural consequences of a “virtual-lesion” in healthy individuals and has therapeutic potential for dysphagia rehabilitation.

Competing interests None declared.

OC-093 AEROPHAGIA DURING MEALS AND POSTPRANDIAL GAS-CONTAINING REFLUX IN PATIENTS WITH GORD NOT RESPONDING TO PPI

doi:10.1136/gutjnl-2012-302514a.93

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Introduction A significant number of GORD patients (30%) continue to perceive symptoms despite PPI therapy. Impedance-pH studies have shown that proximal extent of reflux and presence of gas in the refluxate are the only parameters associated with symptoms